

# **No Till Wheat Seeder into Maize Stubble and Research Work in CTRC**

## **农业部保护性耕作研究中心的研究工作**

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**[www.cn-ct.net](http://www.cn-ct.net)**



# Research Work in CTRC

1. CT Machineries 保护性耕作专用机具
2. CT/Environment 保护性耕作与环境
3. Controlled Traffic/PRB; 固定道
4. Integration of Mechanical and Electrical Industry in CT 机电一体化技术应用
5. Special metal materials for CT machines 专用材料

# Part 1 第一部分

**No Till Wheat seeders into maize stubble**

玉米秸秆覆盖地小麦免耕播种机

# Strip chop no-till seeder

## 带状粉碎小麦免耕播种机

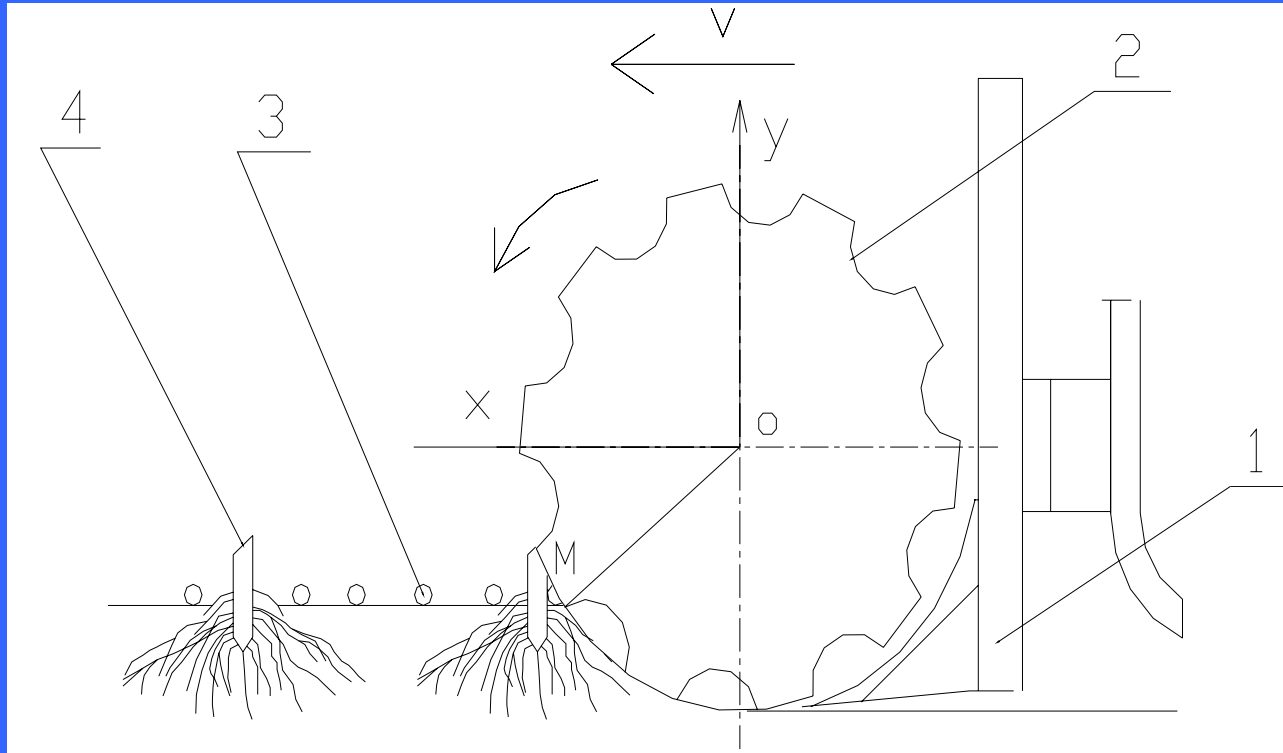






# Oblique driven disc no-till seeder

## 驱动圆盘小麦免耕播种机



1. opener 2. concave disc. 3. maize stalk. 4. maize stubble







# No Till Maize Planter

## 玉米免耕播种机



2行



3行



4行



4行



6行

# No Till wheat Seeders

## 小麦免耕播种机



5行



6行



7行



9行



10行

# Part 2 第二部分

Conservation Tillage /Environment

(Runoff, Sediment transport, green house gas emission)

保护性耕作与环境保护

(径流、农田扬尘、温室气体排放)

# CT/Runoff (径流)



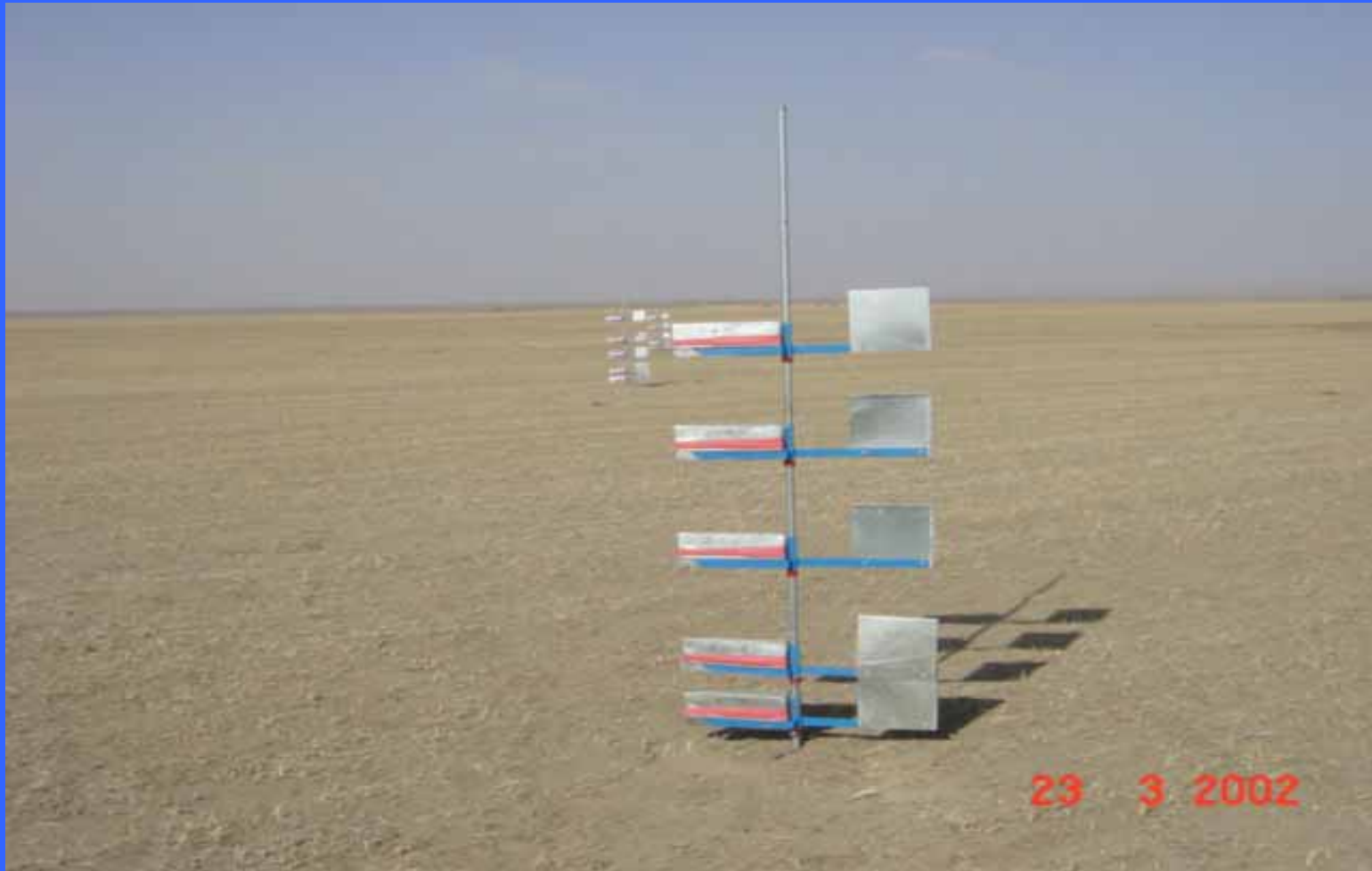
# Results 结果

Runoff  $\searrow$  50~60%; Soil losse  $\searrow$  80%  
减少径流50~60%，减少土壤流失80%



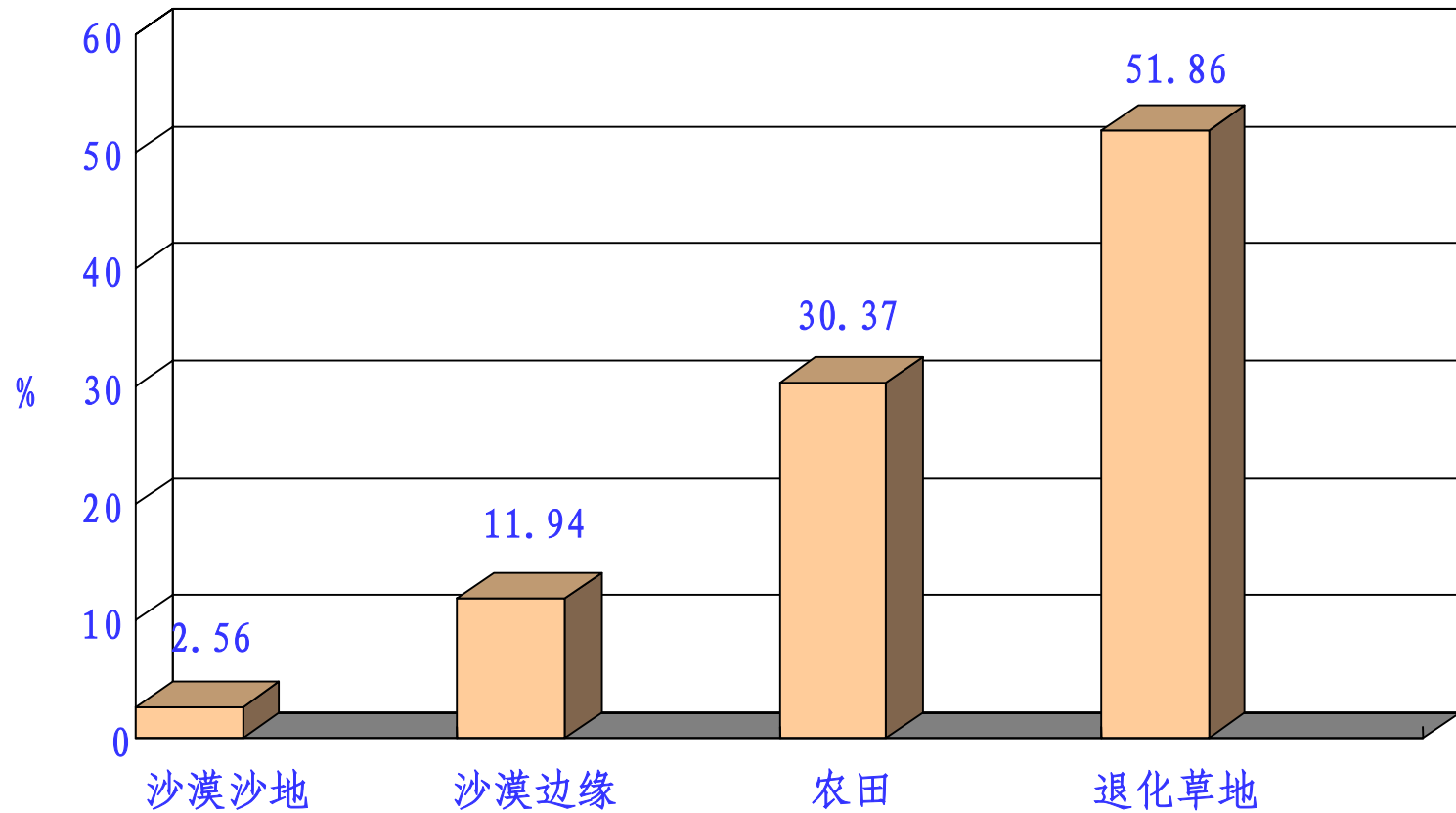
# CT/Soil Sediment Transport

## 农田扬尘

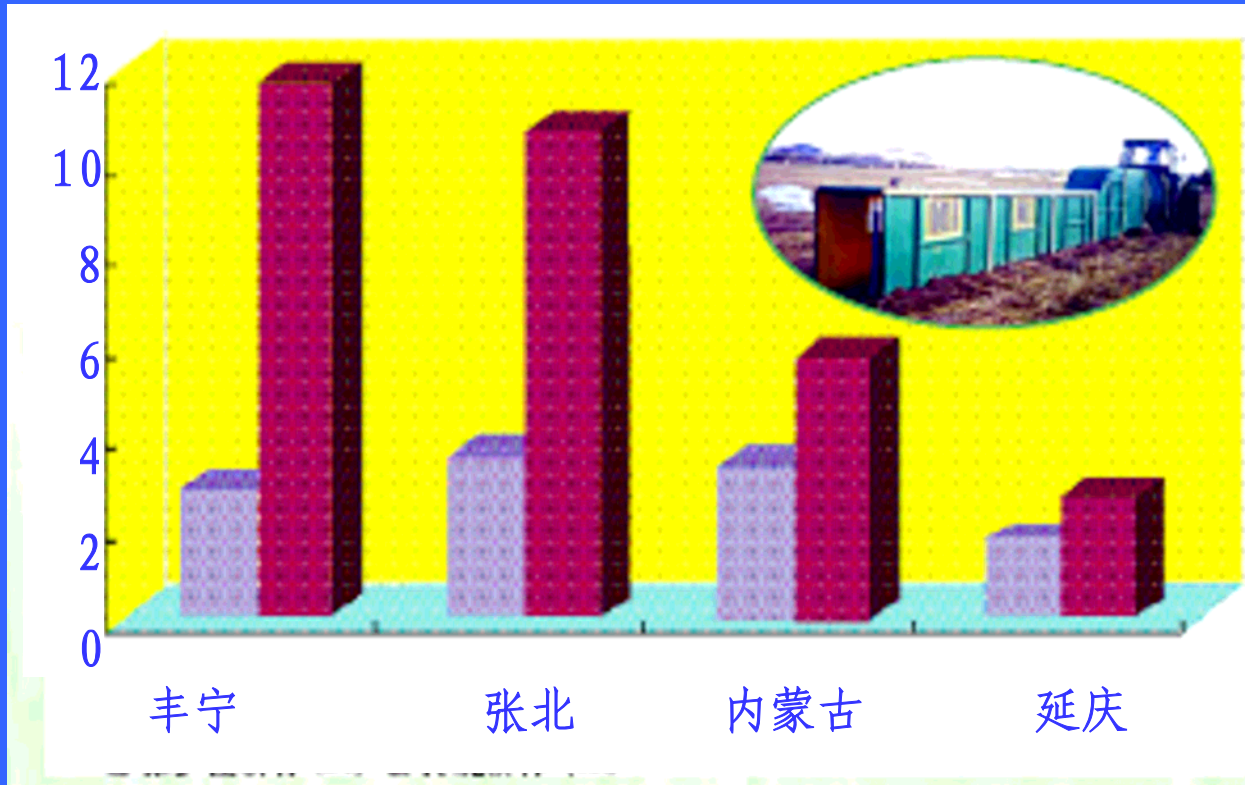


# Particulate in different soil materials

不同类型类型土壤中的细小颗粒



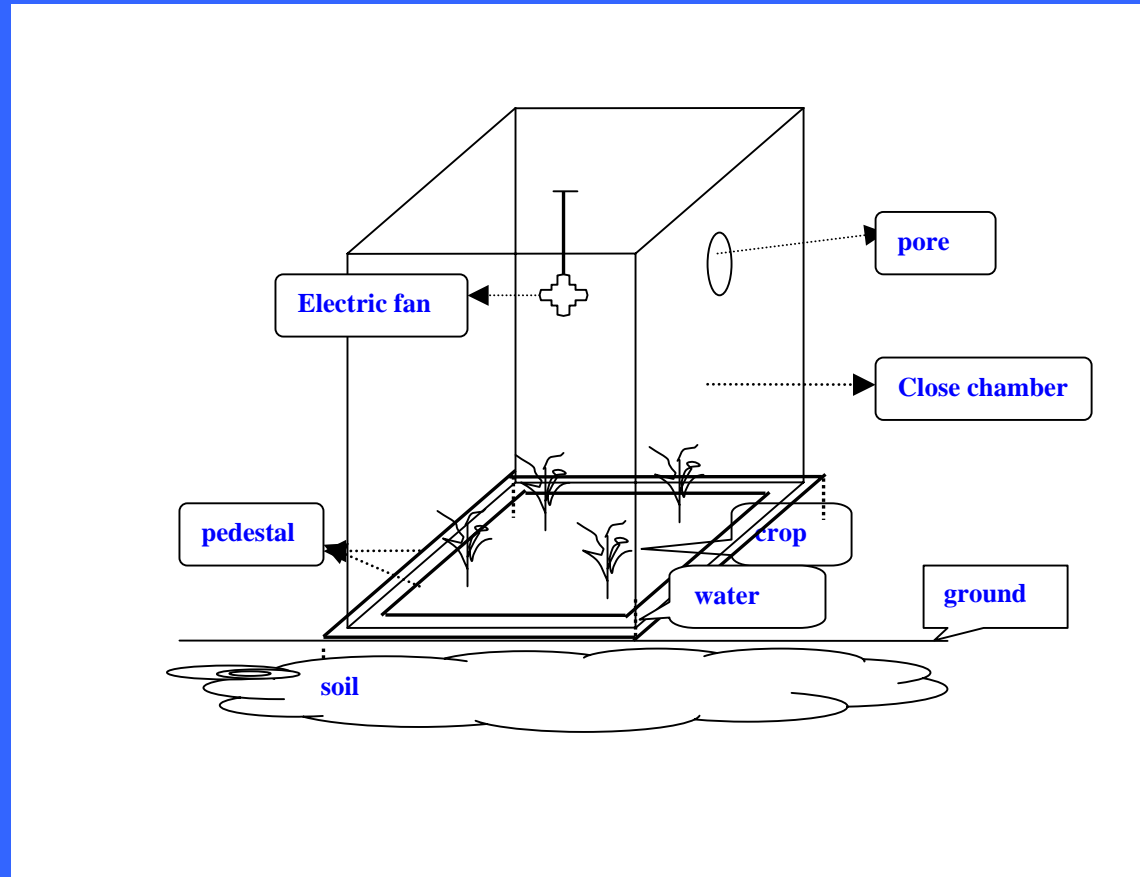




↘ 50%

# Green House Gas Emission

## 温室气体排放







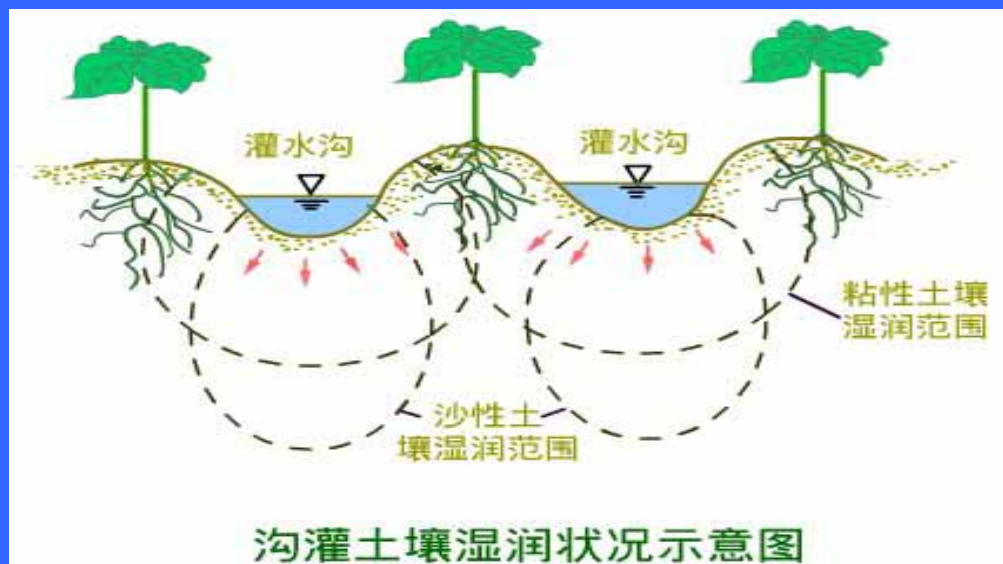




# Part 3 第三部分

- **Controlled Traffic/Permanent Raised Bed**
- 固定道保护性耕作/固定垄保护性耕作







# Benefits 好处

- Save energy 节能
- Save Water 省水
- Improve soil structure 改善土壤结构
- Mechanical precision farming 机械式精准农业

# Part 4 第四部分

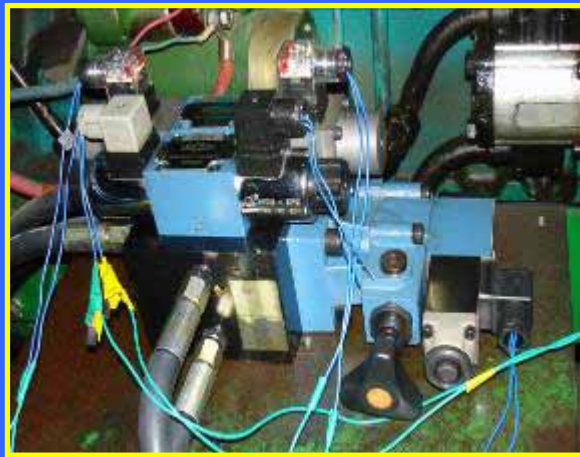
- Integration of Mechanical and Electrical Industry in CT

机电一体化技术在保护性耕作中的应用

# Tractor Guidance 拖拉机导向系统



**Detecting system**  
导向系统



**Control system**  
控制系统



**The tractor can be guided to follow the crop row at lower speed**

已能实现拖拉机速度较低情况下，利用秸秆根茬导航

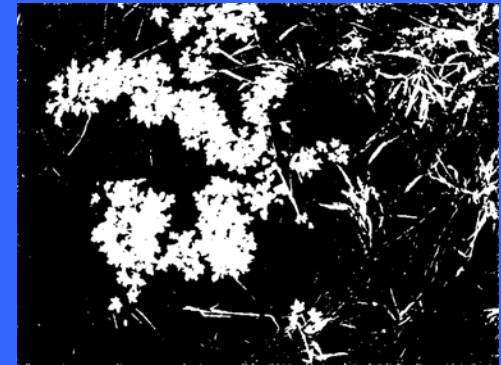
# Camera Guidance

## 摄像机导航



# Automatic monitoring Stubble Cover Rate

## 秸秆覆盖率快速检测



# Part 5 第五部分

- Special metal materials for CT machines
- 保护性耕作机具专用材料



*Thank you!*